



|                         |                     |                             |
|-------------------------|---------------------|-----------------------------|
| 210                     | 215                 | 220                         |
| Val Asn Pro Trp Gly Glu | Val Leu Ala Lys Ala | Gly Thr Glu Glu Ala         |
| 225                     | 230                 | 235                         |
| Ile Val Tyr Ser Asp     | Ile Asp Leu Lys Lys | Leu Ala Glu Ile Arg Gln     |
|                         | 245                 | 250                         |
| Gln Ile Pro Val Phe     | Arg Gln Lys Arg     | Ser Asp Leu Tyr Ala Val Glu |
|                         | 260                 | 265                         |
| Met Lys Lys Pro         |                     | 270                         |
| 275                     |                     |                             |

<210> 2  
 <211> 276  
 <212> PRT  
 <213> mouse

|                                                                 |
|-----------------------------------------------------------------|
| <400> 2                                                         |
| Met Ser Thr Phe Arg Leu Ala Leu Ile Gln Leu Gln Val Ser Ser Ile |
| 1 5 10 15                                                       |
| Lys Ser Asp Asn Leu Thr Arg Ala Cys Ser Leu Val Arg Glu Ala Ala |
| 20 25 30                                                        |
| Lys Gln Gly Ala Asn Ile Val Ser Leu Pro Glu Cys Phe Asn Ser Pro |
| 35 40 45                                                        |
| Tyr Gly Thr Thr Tyr Phe Pro Asp Tyr Ala Glu Lys Ile Pro Gly Glu |
| 50 55 60                                                        |
| Ser Thr Gln Lys Leu Ser Glu Val Ala Lys Glu Ser Ser Ile Tyr Leu |
| 65 70 75 80                                                     |
| Ile Gly Gly Ser Ile Pro Glu Glu Asp Ala Gly Lys Leu Tyr Asn Thr |
| 85 90 95                                                        |
| Cys Ser Val Phe Gly Pro Asp Gly Ser Leu Leu Val Lys His Arg Lys |
| 100 105 110                                                     |
| Ile His Leu Phe Asp Ile Asp Val Pro Gly Lys Ile Thr Phe Gln Glu |
| 115 120 125                                                     |
| Ser Lys Thr Leu Ser Pro Gly Asp Ser Phe Ser Thr Phe Asp Thr Pro |
| 130 135 140                                                     |
| Tyr Cys Lys Val Gly Leu Gly Ile Cys Tyr Asp Met Arg Phe Ala Glu |
| 145 150 155 160                                                 |
| Leu Ala Gln Ile Tyr Ala Gln Arg Gly Cys Gln Leu Leu Val Tyr Pro |
| 165 170 175                                                     |
| Gly Ala Phe Asn Leu Thr Thr Gly Pro Ala His Trp Glu Leu Leu Gln |
| 180 185 190                                                     |
| Arg Ala Arg Ala Val Asp Asn Gln Val Tyr Val Ala Thr Ala Ser Pro |
| 195 200 205                                                     |
| Ala Arg Asp Asp Lys Ala Ser Tyr Val Ala Trp Gly His Ser Thr Val |
| 210 215 220                                                     |
| Val Asp Pro Trp Gly Gln Val Leu Thr Lys Ala Gly Thr Glu Glu Thr |
| 225 230 235 240                                                 |
| Ile Leu Tyr Ser Asp Ile Asp Leu Lys Lys Leu Ala Glu Ile Arg Gln |
| 245 250 255                                                     |
| Gln Ile Pro Ile Leu Lys Gln Lys Arg Ala Asp Leu Tyr Thr Val Glu |
| 260 265 270                                                     |
| Ser Lys Lys Pro                                                 |
| 275                                                             |

<210> 3  
 <211> 288

<212> PRT  
 <213> X. laevis

<400> 3

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gly | Ala | His | Lys | Pro | Leu | Ile | Ala | Val | Cys | Gln | Met | Thr | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ser | Asp | Lys | Glu | Lys | Asn | Phe | Ala | Thr | Cys | Ser | Arg | Leu | Ile | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ala | Ala | Gly | Arg | Arg | Ala | Cys | Met | Val | Phe | Leu | Pro | Glu | Ala | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Tyr | Ile | Gly | Gly | Ser | Ile | Glu | Glu | Thr | Leu | Ser | Leu | Ala | Glu | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | His | Gly | Asp | Thr | Ile | Gln | Arg | Tyr | Thr | Gln | Leu | Ala | Arg | Glu | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Leu | Trp | Leu | Ser | Leu | Gly | Gly | Phe | His | Glu | Lys | Gly | Pro | Asn | Trp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Thr | Asp | Gln | Arg | Ile | Ser | Asn | Ser | His | Val | Val | Val | Asp | Asn | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | His | Ile | Val | Ser | Val | Tyr | Arg | Lys | Ala | His | Leu | Phe | Asp | Val | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Gln | Asn | Gly | Val | Ser | Leu | Arg | Glu | Ser | Ser | Ser | Thr | Leu | Pro | Gly |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Ala | Glu | Leu | Ile | Arg | Pro | Ile | Thr | Ser | Pro | Ala | Gly | Lys | Ile | Gly | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Val | Cys | Tyr | Asp | Leu | Arg | Phe | Pro | Glu | Phe | Ser | Leu | Ala | Leu | Ala |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Gln | Gly | Ala | Glu | Leu | Leu | Thr | Tyr | Pro | Ser | Ala | Phe | Thr | Leu | Thr |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Gly | Leu | Ala | His | Trp | Glu | Val | Leu | Leu | Arg | Ala | Arg | Ala | Ile | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Gln | Cys | Tyr | Val | Val | Ala | Ala | Ala | Gln | Thr | Asp | Arg | His | Asn | Glu |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Arg | Thr | Ser | Tyr | Gly | His | Ala | Met | Val | Val | Asp | Pro | Trp | Gly | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Ile | Gly | Gln | Cys | Gln | Glu | Gly | Thr | Gly | Ile | Cys | Tyr | Ala | Glu | Ile |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asp | Ile | Pro | Tyr | Met | Glu | Arg | Val | Arg | Arg | Asp | Met | Pro | Val | Trp | Arg |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| His | Arg | Arg | Thr | Asp | Leu | Tyr | Gly | Lys | Ile | Ser | Phe | Asn | Lys | Pro | Asp |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |

<210> 4

<211> 307

<212> PRT

<213> S. cerevisiae

<400> 4

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Ser | Lys | Leu | Lys | Arg | Val | Ala | Val | Ala | Gln | Leu | Cys | Ser | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Asp | Leu | Thr | Lys | Asn | Leu | Lys | Val | Val | Lys | Glu | Leu | Ile | Ser | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ile | Gln | Lys | Lys | Ala | Asp | Val | Val | Phe | Leu | Pro | Glu | Ala | Ser | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Leu | Ser | Gln | Asn | Pro | Leu | His | Ser | Arg | Tyr | Leu | Ala | Gln | Lys | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

Pro Lys Phe Ile Arg Gln Leu Gln Ser Ser Ile Thr Asp Leu Val Arg  
 65 70 75 80  
 Asp Asn Ser Arg Asn Ile Asp Val Ser Ile Gly Val His Leu Pro Pro  
 85 90 95  
 Ser Glu Gln Asp Leu Leu Glu Gly Asn Asp Arg Val Arg Asn Val Leu  
 100 105 110  
 Leu Tyr Ile Asp His Glu Gly Lys Ile Leu Gln Glu Tyr Gln Lys Leu  
 115 120 125  
 His Leu Phe Asp Val Asp Val Pro Asn Gly Pro Ile Leu Lys Glu Ser  
 130 135 140  
 Lys Ser Val Gln Pro Gly Lys Ala Ile Pro Asp Ile Ile Glu Ser Pro  
 145 150 155 160  
 Leu Gly Lys Leu Gly Ser Ala Ile Cys Tyr Asp Ile Arg Phe Pro Glu  
 165 170 175  
 Phe Ser Leu Lys Leu Arg Ser Met Gly Ala Glu Ile Leu Cys Phe Pro  
 180 185 190  
 Ser Ala Phe Thr Ile Lys Thr Gly Glu Ala His Trp Glu Leu Leu Gly  
 195 200 205  
 Arg Ala Arg Ala Val Asp Thr Gln Cys Tyr Val Leu Met Pro Gly Gln  
 210 215 220  
 Val Gly Met His Asp Leu Ser Asp Pro Glu Trp Glu Lys Gln Ser His  
 225 230 235 240  
 Met Ser Ala Leu Glu Lys Ser Ser Arg Arg Glu Ser Trp Gly His Ser  
 245 250 255  
 Met Val Ile Asp Pro Trp Gly Lys Ile Ile Ala His Ala Asp Pro Ser  
 260 265 270  
 Thr Val Gly Pro Gln Leu Ile Leu Ala Asp Leu Asp Arg Glu Leu Leu  
 275 280 285  
 Gln Glu Ile Arg Asn Lys Met Pro Leu Trp Asn Gln Arg Arg Asp Asp  
 290 295 300  
 Leu Phe His  
 305

<210> 5  
 <211> 291  
 <212> PRT  
 <213> S. cerevisiae

<400> 5  
 Met Ser Ala Ser Lys Ile Leu Ser Gln Lys Ile Lys Val Ala Leu Val  
 1 5 10 15  
 Gln Leu Ser Gly Ser Ser Pro Asp Lys Met Ala Asn Leu Gln Arg Ala  
 20 25 30  
 Ala Thr Phe Ile Glu Arg Ala Met Lys Glu Gln Pro Asp Thr Lys Leu  
 35 40 45  
 Val Val Leu Pro Glu Cys Phe Asn Ser Pro Tyr Ser Thr Asp Gln Phe  
 50 55 60  
 Arg Lys Tyr Ser Glu Val Ile Asn Pro Lys Glu Pro Ser Thr Ser Val  
 65 70 75 80  
 Gln Phe Leu Ser Asn Leu Ala Asn Lys Phe Lys Ile Ile Leu Val Gly  
 85 90 95  
 Gly Thr Ile Pro Glu Leu Asp Pro Lys Thr Asp Lys Ile Tyr Asn Thr  
 100 105 110  
 Ser Ile Ile Phe Asn Glu Asp Gly Lys Leu Ile Asp Lys His Arg Lys  
 115 120 125

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | His | Leu | Phe | Asp | Val | Asp | Ile | Pro | Asn | Gly | Ile | Ser | Phe | His | Glu |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Glu | Thr | Leu | Ser | Pro | Gly | Glu | Lys | Ser | Thr | Thr | Ile | Asp | Thr | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Gly | Lys | Phe | Gly | Val | Gly | Ile | Cys | Tyr | Asp | Met | Arg | Phe | Pro | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Ala | Met | Leu | Ser | Ala | Arg | Lys | Gly | Ala | Phe | Ala | Met | Ile | Tyr | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ala | Phe | Asn | Thr | Val | Thr | Gly | Pro | Leu | His | Trp | His | Leu | Leu | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Ser | Arg | Ala | Val | Asp | Asn | Gln | Val | Tyr | Val | Met | Leu | Cys | Ser | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Arg | Asn | Leu | Gln | Ser | Ser | Tyr | His | Ala | Tyr | Gly | His | Ser | Ile | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Asp | Pro | Arg | Gly | Lys | Ile | Val | Ala | Glu | Ala | Gly | Glu | Gly | Glu | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ile | Ile | Tyr | Ala | Glu | Leu | Asp | Pro | Glu | Val | Ile | Glu | Ser | Phe | Arg | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Val | Pro | Leu | Thr | Lys | Gln | Arg | Arg | Phe | Asp | Val | Tyr | Ser | Asp | Val |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asn | Ala | His |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 290 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 6  
 <211> 276  
 <212> PRT  
 <213> S. pombe

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met     | Thr | Leu | Ala | Ala | Val | Ala | Gln | Leu | Asn | Ser | Ser | Gly | Ser | Ile | Leu |
| 1       |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys     | Asn | Leu | Ala | Ile | Cys | Lys | Glu | Leu | Ile | Ser | Gln | Ala | Ala | Ala | Lys |
|         |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly     | Ala | Lys | Cys | Ile | Phe | Phe | Pro | Glu | Ala | Ser | Asp | Phe | Ile | Ala | His |
|         |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn     | Ser | Asp | Glu | Ala | Ile | Glu | Leu | Thr | Asn | His | Pro | Asp | Cys | Ser | Lys |
|         | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe     | Ile | Arg | Asp | Val | Arg | Glu | Ser | Ala | Thr | Lys | His | Ser | Ile | Phe | Val |
| 65      |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn     | Ile | Cys | Val | His | Glu | Pro | Ser | Lys | Val | Lys | Asn | Lys | Leu | Leu | Asn |
|         |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser     | Ser | Leu | Phe | Ile | Glu | Pro | Leu | His | Gly | Glu | Ile | Ile | Ser | Arg | Tyr |
|         |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser     | Lys | Ala | His | Leu | Phe | Asp | Val | Glu | Ile | Lys | Asn | Gly | Pro | Thr | Leu |
|         |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys     | Glu | Ser | Asn | Thr | Thr | Leu | Arg | Gly | Glu | Ala | Ile | Cys | Pro | Pro | Cys |
|         | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Lys     | Thr | Pro | Leu | Gly | Lys | Val | Gly | Ser | Ala | Ile | Cys | Phe | Asp | Ile | Arg |
| 145     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Phe     | Pro | Glu | Gln | Ala | Ile | Lys | Leu | Arg | Asn | Met | Gly | Ala | His | Ile | Ile |
|         |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr     | Tyr | Pro | Ser | Ala | Phe | Thr | Glu | Lys | Thr | Gly | Ala | Ala | His | Trp | Glu |
|         |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val     | Leu | Leu | Arg | Ala | Arg | Ala | Leu | Asp | Ser | Gln | Cys | Tyr | Val | Ile | Ala |
|         |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Gln | Gly | Gly | Lys | His | Asn | Glu | Lys | Arg | Ala | Ser | Tyr | Gly | His |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Met | Ile | Val | Asp | Pro | Trp | Gly | Thr | Val | Ile | Ala | Gln | Tyr | Ser | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ser | Ser | Pro | Asn | Gly | Leu | Ile | Phe | Ala | Asp | Leu | Asp | Leu | Asn | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Asp | His | Val | Arg | Thr | Tyr | Ile | Pro | Leu | Leu | Arg | Arg | Asn | Asp | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Pro | Thr | Ile |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 275 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 7  
 <211> 322  
 <212> PRT  
 <213> S. pombe

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met     | Asn | Ser | Lys | Phe | Phe | Gly | Leu | Val | Gln | Lys | Gly | Thr | Arg | Ser | Phe |
| 1       |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe     | Pro | Ser | Leu | Asn | Phe | Cys | Tyr | Thr | Arg | Asn | Ile | Met | Ser | Val | Ser |
|         |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala     | Ser | Ser | Leu | Val | Pro | Lys | Asp | Phe | Arg | Ala | Phe | Arg | Ile | Gly | Leu |
|         |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val     | Gln | Leu | Ala | Asn | Thr | Lys | Asp | Lys | Ser | Glu | Asn | Leu | Gln | Leu | Ala |
|         | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Arg     | Leu | Lys | Val | Leu | Glu | Ala | Ala | Lys | Asn | Gly | Ser | Asn | Val | Ile | Val |
| 65      |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu     | Pro | Glu | Ile | Phe | Asn | Ser | Pro | Tyr | Gly | Thr | Gly | Tyr | Phe | Asn | Gln |
|         |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr     | Ala | Glu | Pro | Ile | Glu | Glu | Ser | Ser | Pro | Ser | Tyr | Gln | Ala | Leu | Ser |
|         |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser     | Met | Ala | Lys | Asp | Thr | Lys | Thr | Tyr | Leu | Phe | Gly | Gly | Ser | Ile | Pro |
|         |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu     | Arg | Lys | Asp | Gly | Lys | Leu | Tyr | Asn | Thr | Ala | Met | Val | Phe | Asp | Pro |
|         | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser     | Gly | Lys | Leu | Ile | Ala | Val | His | Arg | Lys | Ile | His | Leu | Phe | Asp | Ile |
| 145     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp     | Ile | Pro | Gly | Gly | Val | Ser | Phe | Arg | Glu | Ser | Asp | Ser | Leu | Ser | Pro |
|         |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly     | Asp | Ala | Met | Thr | Met | Val | Asp | Thr | Glu | Tyr | Gly | Lys | Phe | Gly | Leu |
|         |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly     | Ile | Cys | Tyr | Asp | Ile | Arg | Phe | Pro | Glu | Leu | Ala | Met | Ile | Ala | Ala |
|         |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg     | Asn | Gly | Cys | Ser | Val | Met | Ile | Tyr | Pro | Gly | Ala | Phe | Asn | Leu | Ser |
|         | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr     | Gly | Pro | Leu | His | Trp | Glu | Leu | Leu | Ala | Arg | Ala | Arg | Ala | Val | Asp |
| 225     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Asn     | Glu | Met | Phe | Val | Ala | Cys | Cys | Ala | Pro | Ala | Arg | Asp | Met | Asn | Ala |
|         |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asp     | Tyr | His | Ser | Trp | Gly | His | Ser | Thr | Val | Val | Asp | Pro | Phe | Gly | Lys |
|         |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val     | Ile | Ala | Thr | Thr | Asp | Glu | Lys | Pro | Ser | Ile | Val | Tyr | Ala | Asp | Ile |
|         |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asp     | Pro | Ser | Val | Met | Ser | Thr | Ala | Arg | Asn | Ser | Val | Pro | Ile | Tyr | Thr |
|         | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |

Gln Arg Arg Phe Asp Val Tyr Ser Glu Val Leu Pro Ala Leu Lys Lys  
 305 310 315 320  
 Glu Glu

<210> 8  
 <211> 1359  
 <212> DNA  
 <213> Homo sapien

<400> 8  
 gtgggtgcttg tctgcagagt catgaacctct ttcggttgg cctcatcca gcttcagatt 60  
 tcttccatca aatcagataa cgtcactcgc gcttgtagct tcatccggga ggcagcaacg 120  
 caaggagcca aaatagtttc tttgcccga tgccttaatt ctccatattg agcgaaatat 180  
 tttcctgaat atgcagagaa aattcctggt gaatccacac agaagcttcc tgaagtagca 240  
 aaggaatgca gcatatatct cattggaggc tctatccctg aagaggatgc tgggaaatta 300  
 tataacacct gtgctgtgtt tgggcctgat ggaactttac tagcaaagta tagaaagatc 360  
 catctgtttg acattgatgt tcctggaaaa attacatttc aagaatctaa aacattgagt 420  
 ccgggtgata gtttctccac atttgatact ccttactgca gagtgggtct gggcatctgc 480  
 tacgacatgc ggtttgcaga gcttgacaaa atctacgcac agagaggctg ccagctgttg 540  
 gtatatccag gagcttttaa tctgaccact ggaccagccc attgggagtt acttcagcga 600  
 agccgggctg ttgataatca ggtgtatgtg gccacagcct ctctgcccg ggatgacaaa 660  
 gcctcctatg ttgcctgggg acacagcacc gtggtgaacc cttgggggga ggttctagcc 720  
 aaagctggca cagaagaagc aatcgtgtat tcagacatag acctgaagaa gctggctgaa 780  
 atacgccagc aaatccccgt ttttagacag aagcgatcag acctctatgc tgtggagatg 840  
 aaaaagccct aaagtttatg tttctaattg gtcacagaat aggacgatat gattctacaa 900  
 cataatcaac tccctattaa attctttaat gaagaaaaaa aatttaaaaa aaaaaaaaaa 960  
 aacctaggtt ctctattgag atgagaaagc ctcatattgc tgacattttc cagccacat 1020  
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 aattctccat atggaacaac ctactttcct gactatgcag agaagattcc tggagagtcc 240  
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 cctgaagagg atgctgggaa actgtataat acctgctctg tgtttgggac tgatggaagt 360  
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|            |            |            |            |            |            |      |
|------------|------------|------------|------------|------------|------------|------|
| gcagacctct | atacagtgga | atcaaagaag | ccttgatata | tgtttcaaaa | atgtcaccaa | 900  |
| caggatgatg | ctctgtcaga | tgatcaactc | tactacatct | cttttttttg | gagggagggg | 960  |
| ggaacagggc | catttcatgt | taattctatc | aatgatctgt | gccacaaggt | cccctatttt | 1020 |
| aattaaaagt | ttcatcttta | attaaaatgt | gcttggtaac | aatgttctag | ctcttaacta | 1080 |
| gtctgatggg | tcctaggcat | ttcagtccca | agatcccttt | gaacaattaa | aaactgaagc | 1140 |
| ctctaagcat | tgtttccatg | tgtggtgggc | tggtcccatc | tgtctgagaa | aatgtacatt | 1200 |
| taccagaaca | ctaattttca | tggtgcta   | atcccatcaa | catgacactt | ttaaaacttt | 1260 |
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<210> 10  
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 <213> X. laevis

|              |             |             |             |             |             |      |
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| cttcgcggga   | caggacaggg  | tcttaggctc  | tgccctgtgt  | ccacacgccc  | ttgtgcagac  | 120  |
| tgctatagac   | tgtgacttta  | accctgtgtc  | cggatatagg  | ggtagaagc   | ctgagtgcaa  | 180  |
| tggtctgggtgc | ccacaagccc  | ctgattgccc  | tgtgccagat  | gacttcaacc  | tctgataagg  | 240  |
| agaagaattt   | cgccacgtgt  | tcgcggctga  | tcggggaggc  | tgccggggcgt | cgcgcttgca  | 300  |
| tggtgtttct   | gccggaagcc  | tttgactata  | tcggggggcag | cattgaggag  | acgctgagtc  | 360  |
| tggtctgagtc  | tctacatggg  | gacaccattc  | agcgttacac  | ccaactcgcc  | agggagtggtg | 420  |
| ggctctggct   | ttccctgggg  | ggatttcatg  | agaaaggacc  | caactggggac | acggaccaac  | 480  |
| gcatttccaa   | ttctcacgtg  | gttgtggaca  | acacagggca  | catagtatcg  | gtgtaccgca  | 540  |
| aggctcacct   | gtttgacgta  | gacttgcaga  | atggagtgtc  | actcagagag  | agcagttcca  | 600  |
| ccctccccgg   | agcagagctt  | attcgccccca | tcacttctcc  | agcaggaaaag | attggcctgg  | 660  |
| gggtgtgtta   | cgacctccgc  | ttcccagaat  | tctccttggc  | tctggcccaa  | caaggagcag  | 720  |
| aacttctcac   | ttacccttct  | gccttcaccc  | tcactactgg  | tctggcacat  | tgaggaggtgt | 780  |
| tgctgagagc   | ccgtgccata  | gaaacccagt  | gctacgtagt  | tgacgcggca  | cagacagaca  | 840  |
| gacacaatga   | gaagaggacg  | tcctatggtc  | acgttatggg  | ggtagaccgc  | tgggggctgg  | 900  |
| tcattggcca   | atgccaggaa  | ggaacaggaa  | tatgttatgc  | tgagattgac  | attccctaca  | 960  |
| tgagcgtgt    | gaggcgggac  | atgccggtgt  | ggaggcaccg  | caggactgat  | ctgtatggga  | 1020 |
| aaatctcctt   | taataaaccc  | gactgactcc  | ataatggatc  | acctgcacct  | atggggggcaa | 1080 |
| agnctttccc   | ctgattgctg  | aaattcctca  | atctgtgact  | gtgaatgaca  | atgaacgtga  | 1140 |
| cttgggaattg  | cctgggttatg | gcaccggcaa  | tgattctcta  | cagtaattct  | caataaaaagt | 1200 |
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<210> 11  
 <211> 346  
 <212> PRT  
 <213> A. thaliana

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 11 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Met      | Ser | Ser | Thr | Lys | Asp | Met | Ser | Thr | Val | Gln | Asn | Ala | Thr | Pro | Phe |  |
| 1        |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Asn      | Gly | Val | Ala | Pro | Ser | Thr | Thr | Val | Arg | Val | Thr | Ile | Val | Gln | Ser |  |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ser      | Thr | Val | Tyr | Asn | Asp | Thr | Pro | Ala | Thr | Ile | Asp | Lys | Ala | Glu | Lys |  |
|          |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |
| Tyr      | Ile | Val | Glu | Ala | Ala | Ser | Lys | Gly | Ala | Glu | Leu | Val | Leu | Phe | Pro |  |
|          | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |
| Glu      | Gly | Phe | Ile | Gly | Gly | Tyr | Pro | Arg | Gly | Phe | Arg | Phe | Gly | Leu | Ala |  |
| 65       |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |
| Val      | Gly | Val | His | Asn | Glu | Glu | Gly | Arg | Asp | Glu | Phe | Arg | Lys | Tyr | His |  |
|          |     |     | 85  |     |     |     | 90  |     |     |     |     |     |     | 95  |     |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Ala | Ile | His | Val | Pro | Gly | Pro | Glu | Val | Ala | Arg | Leu | Ala | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Ala | Arg | Lys | Asn | His | Val | Tyr | Leu | Val | Met | Gly | Ala | Ile | Glu | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Glu | Gly | Tyr | Thr | Leu | Tyr | Cys | Thr | Val | Leu | Phe | Phe | Ser | Pro | Gln | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Gln | Phe | Leu | Gly | Lys | His | Arg | Lys | Leu | Met | Pro | Thr | Ser | Leu | Glu | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Cys | Ile | Trp | Gly | Gln | Gly | Asp | Gly | Ser | Thr | Ile | Pro | Val | Tyr | Asp | Thr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Ile | Gly | Lys | Leu | Gly | Ala | Ala | Ile | Cys | Trp | Glu | Asn | Arg | Met | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Tyr | Arg | Thr | Ala | Leu | Tyr | Ala | Lys | Gly | Ile | Glu | Leu | Tyr | Cys | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |
| Pro | Thr | Ala | Asp | Gly | Ser | Lys | Glu | Trp | Gln | Ser | Ser | Met | Leu | His | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Ala | Ile | Glu | Gly | Gly | Cys | Phe | Val | Leu | Ser | Ala | Cys | Gln | Phe | Cys | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Lys | His | Phe | Pro | Asp | His | Pro | Asp | Tyr | Leu | Phe | Thr | Asp | Trp | Tyr |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asp | Asp | Lys | Glu | His | Asp | Ser | Ile | Val | Ser | Gln | Gly | Gly | Ser | Val | Ile |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ile | Ser | Pro | Leu | Gly | Gln | Val | Leu | Ala | Gly | Pro | Asn | Phe | Glu | Ser | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Leu | Val | Thr | Ala | Asp | Ile | Asp | Leu | Gly | Asp | Ile | Ala | Arg | Ala | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Tyr | Phe | Asp | Ser | Val | Gly | His | Tyr | Ser | Arg | Pro | Asp | Val | Leu | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Thr | Val | Asn | Glu | His | Pro | Arg | Lys | Ser | Val | Thr | Phe | Val | Thr | Lys |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Glu | Lys | Ala | Glu | Asp | Asp | Ser | Asn | Lys |     |     |     |     |     |     |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     |     |     |     |